



The Gulf Breeze

The official newspaper of
Padre Island National Seashore

Fall 2009



Padre Island National Seashore protects the longest section of undeveloped barrier island in the world, preserving rare coastal prairie, a complex, dynamic dune system, and the Laguna Madre, one of the few hypersaline lagoon environments left in the world.

Greetings from the Superintendent

WELCOME TO PADRE ISLAND NATIONAL SEASHORE, THE longest remaining undeveloped stretch of barrier island in the world. Our mission is to save and preserve this great park, unimpaired, for purposes of public recreation, benefit, and inspiration.

The fall and winter months are ideal for bird watching due to the many birds that either migrate through or spend the winter here. Fall brings sandhill cranes, which can usually be seen slowly walking through the grasslands. During winter, hawks may be seen perched on telephone poles, fence posts, or in treetops watching for prey. The White-tailed hawk is one of the most commonly spotted raptors, as is the Peregrine falcon, Northern harrier, Crested caracara and osprey.

Bird Island Basin is a popular area with boaters, campers and windsurfers enjoying the Laguna Madre. When staying in this area, please be aware of your surroundings and be courteous to your fellow visitors. To make this increasingly popular area available to as many visitors as possible, please heed the rules and signs in place for the boat ramp, windsurfing area, and campground. If you have questions, never hesitate to ask a park ranger or member of the staff.

The past few months have been very eventful. We have once again achieved a record year for endangered Kemp's ridley turtle nests found, as well as hatchlings released. Of the 197 Kemp's ridley nests documented in Texas, 117 were found at Padre Island National Seashore. This was the first year that over 100 nests were recorded at the park, and the second year that over 100 nests were found on North Padre Island. This is the only area on the Texas coast to log over 100 nests in a season. The debris from Hurricane Ike has been cleared off the beach and, thankfully, the 2009 hurricane season was kind to the area. During the fall, our Facility Management division will be making improvements to the amphitheater and restrooms at the Malaquite Campground.

We do our best to provide an experience in nature, unaffected by progress. Please remember that the National Park Service, visitors, and neighbors are all stewards of this special place, and we must work together to protect and care for Padre Island National Seashore so that it may be enjoyed unimpaired for generations to come. Whether you are touring the country or are from the local community, we hope that you enjoy your visit and plan to return.

Joe Escoto, Superintendent

2009 Another Record Year for Kemp's Ridley Sea Turtle Nesting

Donna J. Shaver, Ph.D.

Chief, Division of Sea Turtle Science and Recovery

FOR OVER THREE DECADES, THE NATIONAL PARK SERVICE has worked with several other agencies in the U.S. and Mexico to help save the world's most endangered sea turtle species from extinction. We are pleased to report that 2009 was the sixth consecutive year that a record number of Kemp's ridley nests were found in Texas since record-keeping began in 1980.

Of the 197 Kemp's ridley nests documented in Texas during 2009, 117 were located at Padre Island National Seashore. More Kemp's ridley nests are consistently found at the National Seashore than at any other location in the U.S., making it the most important nesting beach in the U.S. for this endangered species.

Long-term recovery efforts making a difference

In 1978, it was feared that the Kemp's ridley sea turtle would become extinct unless immediate steps were taken.

Nesting was plummeting at the primary nesting beach for this species at Rancho Nuevo, in Tamaulipas,

Mexico. Nesting had been recorded in the U.S. on Mustang Island, North Padre Island, and South Padre Island, with most records from the National Seashore. Since 1978, bi-national, multi-agency efforts have been under way to increase nesting by Kemp's ridley turtles at the National Seashore, to form a secondary nesting colony there, and as a safeguard against extinction.



Locating and documenting a nesting sea turtle

Look inside...

Greetings & Turtles..	1,3
Park Information	2
Turtle Nesting	3
Lightning Whelk.....	4
Sandhill Cranes.....	4
Shark in the Park.....	5
Original Islanders.....	5
Phragmites.....	6
How Parks Operate	6
Kid's Corner	7
WNPA Products.....	7
Health and Safety.....	8
Park Maps.....	8

Need-to-know info

IN CASE OF EMERGENCY,

DIAL 911

Park rangers are available during normal working hours to provide assistance.

Lost-and-found items may be reported at the visitor center.

Continued on page 3



National Park Service
U.S. Department of the Interior

The Gulf Breeze Volume 7, No. 1

The Gulf Breeze is published by the National Park Service for the orientation and information of visitors to Padre Island National Seashore.

National Park Service
Editor, Juan Rodriguez and Chelsea Aldrich
Superintendent, Joe Escoto

Mailing Address:
P.O. Box 181300
Corpus Christi, TX 78480-1300

Park Headquarters:
(361) 949-8173

Visitor Center:
(361) 949-8068

Beach/Weather Conditions
(361) 949-8175

Internet Address:
www.nps.gov/pais

E-mail address:
pais_visitor_center@nps.gov

The National Park Service cares for the special places saved by the American people so that all may experience our heritage.

Interpretive Programs

Program	Time
Beach Walk	11:00 a.m. <i>Daily</i>
Deck Talk	1:00 p.m. <i>Daily</i>
Bird Tours	January-April (<i>call ahead for details</i>)
Junior Ranger	Self-paced

Programs are subject to change. For more information, please contact the Malaquite Visitor Center at (361) 949-8068, or visit the park's website at www.nps.gov/pais.

Hours

Padre Island National Seashore is open 24 hours a day, 365 days a year. The Malaquite Visitor Center is open daily, from 9:00 a.m. to 5:00 p.m., year-round.

The Malaquite Visitor Center and concessionaire are closed on Christmas day.

Location

The park's physical address is 20301 Park Road 22. From Interstate Highway 37, turn onto Highway 358. The highway then crosses over the Laguna Madre on the JFK Causeway and becomes Park Road 22 once on Padre Island. At the end of Park Road 22 is the National Seashore's entrance station. Traveling through the park takes one to the Malaquite Visitor Center. Approximately one-half of a mile farther down the road, the pavement ends and beach access begins. The total driving distance from I-37 to the beach is approximately 37 miles.

Education and Interpretive Programs

Deck Talks and Beach Walks are held every day. Deck Talks last around 30-45 minutes and can feature a variety of topics, including the numerous interesting items that can be found along the shoreline. Beach Walks last around 45-60 minutes and are an easy-going stroll along the beach with a ranger. On the walk, you may learn about the natural and cultural history of the island, or you may discover some interesting things that have washed ashore. Family programs may be offered at the Malaquite Visitor Center during the summer months, and from January through April, Birding Tours are led by park volunteers who stop at various locations around the park. The National Seashore also offers environmental education programs for school groups of all ages that give children a hands-on experience with nature. Contact the park's Environmental Education specialist, Buzz Botts, at (361) 949-8068 for more detailed information and to make a reservation for your group.

Available Facilities

The Malaquite Visitor Center has an information desk, small museum, bookstore, concession stand, observation decks, restrooms, and cold-water rinse showers (closed only from 7-9 a.m. for cleaning). The visitor center is fully wheelchair accessible with ramps to the main deck and an elevator to the main observation deck. Beach wheelchairs are available for use from 9-5 daily. Please contact the visitor center for more information.

Camping

All camping is on a first-come, first-served basis, and no reservations are accepted.

There is a 14-consecutive-day limit for camping, and after 14 days, you must leave the park for 48 hours before returning again for camping. Overnight camping is limited to a total of 56 days in a calendar year. All camping requires a permit, which is available at the camping and registration kiosks located at the Entrance Station, Malaquite Campground, Bird Island Basin Campground, and the entrance to South Beach. Permits must be displayed on vehicles.

Malaquite Campground (Open All Year)

Semi-primitive, providing only toilets, cold-water rinse showers, picnic tables, and 48 designated sites (six sites are for tent camping only). An \$8 fee is required per site or \$4 with an America the Beautiful pass. Please deposit your payment in the envelope provided in the Iron Ranger. There are no electric hookups available, but there is a dump station and potable water filling station near the campground entrance. Quiet hours are from 10 p.m. to 6 a.m. The area is patrolled by rangers. Camping is accommodated on a first-come, first-served basis and reservations are not accepted. The campground is rarely full, except during February, March, and April.

North Beach (Open All Year)

Primitive and free for RVs and tents. A camping permit is required and is available at the Entrance Station. There are no facilities or designated sites, and camping is permitted from the dunes to the water's edge (up to 100 feet), and is accessible for two-wheel drive vehicles. Beach conditions may vary with weather, and campers should always use caution to avoid becoming stuck in soft sand.

South Beach (Open All Year)

Primitive and free for RVs and tents. A camping permit is required and is available from the camping registration kiosk located at the start of the driving beach. A pit toilet and dumpster are located at the entrance to South Beach, but campers are welcome to use the bathhouse at Malaquite Visitor Center. Camping is permitted from the base of the dunes to the water's edge (up to 100-ft. distance). The camping area extends from the end of Park Road 22 to the southern boundary of the park at the Mansfield Channel.

There are no roads and all driving is on the beach. Four-wheel drive is recommended past the 5-Mile Marker and all driving is at your own risk. Be aware that driving conditions on the beach may vary with the weather and areas of soft sand may be sometimes found in the two-wheel-drive

area, making driving difficult and possibly causing a vehicle to become stuck. Wrecker services can be costly and response time slow. Some areas within the four-wheel drive area have very deep, soft sand. A bulletin on how to prepare for driving down island is available by contacting the visitor center. Contact the visitor center before driving down island to check on beach conditions.

Please note that, in Texas, beaches are considered highways, and all vehicles must be street-legal and licensed. Licensed and unlicensed ATVs, UTVs, go carts, and dune buggies are not allowed to be driven in the park. Driving off the beach and into the dunes, grasslands, and mudflats is prohibited.

Yarborough Pass (Open Intermittently)

Primitive and free tent camping area. A camping permit is required and is available from the South Beach camping and registration kiosk. You can access the campground by driving down South Beach. Drive to the 15-Mile Marker and then backtrack approximately 100 yards. Look for a notch in the dunes and drive through the pass. Follow the road approximately two miles to the campground, which is located on the Laguna Madre. Be aware that the pass through the dunes is sometimes filled with exceptionally deep and soft sand in which even four-wheel drive vehicles may become stuck. Driving on the mudflats surrounding the campground is not permitted because it is a fragile and important habitat. Fines for damaging the mudflats are heavy.

Bird Island Basin (Open All Year)

Semi-primitive, only providing pit toilets. Bird Island Basin is located on the Laguna Madre, approximately four miles from the visitor center. In addition to camping, there is a windsurfing and kayaking area with rentals and lessons available. There is also a boat launch ramp that can accommodate 106 vehicle-and-trailer combinations of approximately 40 feet.

All designated camping and day-use sites are semi-primitive. A camping permit is required and is available at the Entrance Station or Bird Island Basin Campground kiosk. Bird Island Basin is suitable for both RV and tent camping, and pit toilets are available. A pass for \$5.00 per day or \$10 annually, is required for camping, day-use, and boat ramp use is charged at the entrance station in addition to the park entrance fee. If you possess an America the Beautiful pass, the fees are reduced by half.

Report Kemp's, Continued from page 1

Thanks to the hard work and dedication of many people, the Kemp's ridley population is increasing.

Nest detection involves many people

Kemp's ridley turtles take only about 45 minutes to nest. During nesting, the turtle emerges from the sea, crawls up the beach, lays her eggs in the sand at a location anywhere from the high tide line into the dunes, covers the nest with sand, and returns to the sea, providing no maternal care for the eggs.

We want to find the nesting turtles so that we can protect them while they are on the beach, since they can lay many clutches of eggs during their lifetime. We also want to document them so that we can study their nesting history. We want to find the nests so that we can protect the eggs during incubation and hatchlings during release, to help increase the population. Eggs and hatchlings left unprotected on the beach can be harmed or killed due to predation, high tides, and other factors.

To locate and protect nesting, we conduct systematic patrols searching for the tracks left in the sand by the nesting turtles. Sometimes patrollers actually spot the nesting turtles, but in other instances, by the time that patrollers find the site, the turtle has already nested and re-entered the water, and the only evidence left of where she nested are her tracks. Kemp's ridleys are the smallest and lightest of the sea turtle species so they leave a relatively faint track, and they often nest on windy days when their tracks blow away quickly. This can make finding the nest very challenging, and occasionally, nests go undetected.



A turtle patroller on a UTV heading down the beach

Systematic patrols to locate nesting Kemp's ridley turtles and nests are conducted to some extent on all Gulf of Mexico beaches in Texas. The program run by the National Park Service on North Padre Island is the longest running (begun in 1986) and involves the most people. National Park Service staff and volunteers use Utility-Transport-Vehicles to repeatedly patrol the Gulf of Mexico beachfront of North Padre Island, between 6:30 a.m. and 6:30 p.m. each day, from April through mid-July. The area on North Padre Island from Bob Hall Pier to the Packery Channel is patrolled by National Seashore volunteers walking and by City of Corpus Christi employees operating UTVs. During 2009, National Seashore volunteers and staff spent 12,002 hours patrolling a total of 99,828 miles on North Padre Island. One hundred eight volunteers participated in patrols or other aspects of the sea turtle recovery efforts at the National Seashore and contributed over 4,700 hours from April through mid-July.

Other people that are working or recreating on the Texas beaches also aid with detection efforts by reporting their observations of nesting turtles and hatchlings emerging from previously undetected nests and watching these sites until biologists arrive.

Another record nesting year

A record 197 Kemp's ridley nests were found on the Texas coast in 2009, compared to 195 in 2008, 128 in 2007, 102 in 2006, 50 in 2005, and 42 in 2004. One hundred twenty-four of the 197 were found on North Padre Island, including 117 at the National Seashore.



A clutch of eggs that was removed from the nest site, placed in a styrofoam container, and eventually transported to the incubation facility

Eggs from 126 of the nests found at the National Seashore and northward on the Texas coast were brought to the National Seashore's incubation facility for protected care. Resulting hatchlings were released at various locations in the northern half of the National Seashore.

Eggs from 23 nests found at the southern end of the National Seashore were transported to a large screen enclosure called a corral located at the patrol base camp near mile marker 40. Hatchlings from these nests were released near the corral. This was the second year that we used this incubation technique at the National Seashore. As part of

a three-year-study, we are testing this technique and establishing procedures on a small scale before it is necessary to incubate many more nests in corrals in the future, as nesting continues to increase and we start to reach capacity within the incubation facility.

Eggs from 37 nests located on South Padre Island and Boca Chica Beach were transferred to a corral on South Padre Island and the hatchlings were released on South Padre Island.

Eleven nests were not found at egg laying and incubated on the beach before being documented. The exact number of hatchlings that emerged from the nests and successfully entered the sea is unknown since some of these sites had been predated and biologists did not observe the emergences.

Over 11,000 hatchlings released on North Padre Island during 2009

From June through August 2009, 14,505 hatchlings were successfully released from eggs cared for in the incubation facility and corrals on the Texas coast, including 11,704 at the National Seashore. Some additional hatchlings must have successfully entered the water from 11 nests that incubated on the beach, but the exact number cannot be accurately estimated. Twenty-three of the hatchling releases held at the northern end of the National Seashore were open to the public. Over 4,000 people attended these releases, with many traveling long distances just to be there. Viewing of the nesters and hatchlings is becoming an increasing source of ecotourism in the area.



Kemp ridley hatchlings making their way to the Gulf of Mexico

15 mph speed limit

The speed limit on the southernmost 55 miles of the National Seashore was reduced from 25 mph to 15 mph from April through July 2009. The 15 mph speed limit matched the speed limit established by the state and in effect on other Texas beaches. This temporary reduction was to enhance safety for the public and for the nesting turtles during the heavy visitation season and Kemp's ridley nesting season. It can be difficult to see nesting Kemp's ridley turtles because their olive green color blends with the sand and vegetation and they sometimes become partially covered with sand during nesting. They enter a trance-like state during nesting and cannot move quickly to avoid an approaching vehicle. This was the first year that speed limit was temporarily reduced and some people viewed the reduction as an inconvenience. However, visitation to the National Seashore increased during 2009 compared to 2008 and visitor reports of nesters also increased slightly. Visitors found seven of the 117 (6.0%) nest sites at the National Seashore during 2009 compared to five of the 93 (5.4%) during 2008.



Kemp's ridley just nested on Padre Island National Seashore, and is now heading home.

Looking to the future

Padre Island National Seashore is the most important nesting area in the U.S. for Kemp's ridley. After years of conservation effort in Mexico and the U.S., nesting is increasing, but to ensure continued success, monitoring and protection efforts must continue. Plans are already under way for the 2010 patrol and nesting season. We will conduct a similar patrol program next year and look forward to more exciting results. We will once again encourage the public to be watchful for nesting, immediately report nesting that they see, and be careful so that their actions do not frighten or harm the nesting turtles and nests. For more information on the Kemp's Ridley Recovery Program at Padre Island National Seashore, visit our website at www.nps.gov/pais/.

Lightning Whelk

Suzy Evans, Park Ranger

IN 1987, THE TEXAS LIGHTNING WHELK WAS DESIGNATED AS THE official state shell of Texas. The resolution was introduced to the 70th Legislature by Representative John Willy who felt that bluebonnets represent Texas' plains and flatlands, and the topaz represents its mountains. Similarly, he stated: "It is fitting that we name the Lightning whelk the official seashell to represent the coastal areas of the state."

The Lightning whelk (*Busycon perversum*) can be found in water ten feet deep to the low tide line at Padre Island National Seashore, around the Gulf of Mexico and the Southeast Atlantic coast to North Carolina. They have inhabited coastal waters for 60 million years. Lightning whelks are mollusks, which comes from the Latin word *mollis* and means "soft." Of course, the shells aren't soft, but the animal that lives inside is. Further, they are members of the class of gastropods which means "stomach-footed."

With light beige or ivory shell and brown lightning-like streaks that extend from the top to the bottom of the shell, this thick but gracefully shaped shell can grow to 16 inches long. The shell grows very quickly when the whelk is young as long as food is abundant. As it gets older, the shell grows more slowly. When it reaches eight or nine inches, however, the colors fade to an overall grayish white. Most spiral shells open to the right, but the Lightning whelk is considered a left-handed shell. To determine the "handedness" of a shell, put your thumb on the apex and let your fingers curl into the opening. The hand that fits naturally, determines the "handedness" of the shell.

The Lightning whelk is a carnivore and a cannibal. It buries itself in the sand just under the surface where it can "smell" its prey with special sensory organs inside its body. Clams, scallops and oysters are among its favorite foods. Using its foot to steady one of these bivalve shells, it forces open the two shells using the edge

of its own shell as a wedge. Once the shell is open, the whelk rasps the flesh away with its radula (toothed tongue). If this doesn't work, the Lightning whelk will grind the shell with its own shell until it makes a hole large enough to insert its radula. One large clam per month usually satisfies it. Predators of the Lightning whelk include crabs, which use their pincers to break open the shells, gulls, which drop the shells on rocks, and humans.

Mating season is from late October to early January, and spawning season is March through April. In females, a string of disk-like egg capsules is formed in the pore of the foot. The strands of egg capsules are generally between eleven and thirty-three inches long and are attached to a rock or old shell. There are 50 to 175 capsules per strand, and 20 to 100 eggs per capsule. The last few capsules on the unattached end are usually void of eggs, and only eight to 13 of the eggs in each capsule actually hatch. The eggs that do not hatch serve as food for the eggs that do hatch. The young pass through all of their larval stages within the capsule and emerge in May as tiny images of the adults. Females are generally larger than males of the same age.

The shells of the Lightning whelk have been used by people for centuries for food, weapons and house wares. Native Americans used Lightning whelks for religious ceremonies and practical tools. Some tribes felt that "left-handed shells" were sacred objects. Indigenous groups ate whelks and then used their shells as scrapers, cups, and bowls. The larger shells were used as lamps by suspending the shell with the opening upward to hold oil and laying a wick along the canal. Left-handed shells hold religious significance in India and parts of Asia. The egg casings were used by sailors long ago to scrub and clean themselves. In the natural world, empty Lightning whelk shells also become the home of hermit crabs.

The number of Lightning whelks has diminished greatly due to the harvesting of the shells. So, if you should find a live Lightning whelk on the beach, please put it back in the water where it belongs.

Sandhill Cranes at Padre Island National Seashore

Dimitra Guerrero, Staff Writer

ENCOMPASSING A VARIETY OF HABITATS UTILIZED BY BIRDS, SUCH AS beaches, grasslands, dunes, and tidal flats, Padre Island National Seashore protects and provides critical habitat for a variety of breeding, nesting, wintering and migrating birds. Located on the central Gulf coast the National Seashore is an important stopover along Central Flyway, one of several major migratory routes in North America. During a year, over 380 species of birds may inhabit Padre Island National Seashore. Many are residents, some come through during spring or fall migration, and others simply find their way here accidentally.

While the island is an important stopover for many species of migratory birds traveling to and from Central and South America, many species make Padre Island National Seashore their temporary home. Species of central and eastern North America winter on the Gulf Coast because the weather is tolerable and there is plenty of food and water available. Although many of the wintering migrants making the island their home include waterbirds or shorebirds, a visit to the island may also reveal a variety of ducks in the Laguna Madre feeding on seagrasses, songbirds in the grasslands, raptors hunting in the rolling dunes for snakes or mice, along with many other species.

The birds of the grasslands, such as the Northern bobwhite and Sprague's pipit, tend to stay well-concealed and are often difficult to find; however, one of the most conspicuous birds to locate may be the Sandhill cranes. Sandhill cranes, the most common of all the world's cranes, stand nearly four feet tall and boast a wingspan of up to six feet. They can often be seen strolling in pairs, probing for food in the grasslands and the freshwater wetlands of the park. As opportunistic feeders, Sandhill cranes will eat plants, mice, snakes, worms, and insects. A notable characteristic of this crane is its loud rattling or trumpeting call, which can often be heard from the visitor center or Park Road 22. An interesting behavior displayed in cranes is dancing. Research suggests that Sandhill cranes dance as a normal part of motor development, and that it may also strengthen the pair bond. Although commonly associated with courtship, researchers say dancing can occur at any age and season, and may include jumping, bowing, tossing sticks and grass, and wing flapping.

A gregarious or social bird, Sandhill cranes migrate south in groups with their offspring. The male and female adults are similar in appearance as both are gray in the winter and their forehead and crowns are topped with red skin. Although the primary color of Sandhill cranes is grey, some cranes may appear to be rusty-colored. This condition may be attributed to an iron rich mud that stains the feathers during preening. These feathers will usually be molted in the fall, and the crane will return to an all grey plumage. Juvenile cranes are brown and will lack the red crown.

The National Seashore is home to several other large birds that may be confused with the Sandhill cranes. Although very different in behavior and plumage, herons may be confused for cranes. Unlike cranes, herons are smaller and have a slimmer profile, whereas Sandhill cranes are large and more robust. Additionally, when in flight, herons tuck their necks into an "S" shape near the body, and Sandhill cranes fly with their necks stretched out. Another bird that may be confused with the Sandhill is the endangered Whooping crane. Although quite similar in appearance, Whooping cranes are not nearly as abundant as Sandhill cranes, and are not likely to winter at the park as they prefer marshy habitats occurring further north in areas such as Rockport and Fulton. A distinguishing feature of Whooping cranes is that they are white and have black primary feathers located at the end of the wings which are visible when in flight. The Sandhill cranes, on the other hand, will typically be entirely gray.

If you need help identifying birds or are not sure where to start your birding adventure, a quick visit to Malaquite Visitor Center can help get you on your way. There are a variety of resources available to help you plan your visit, and a friendly park ranger to answer your questions. The National Seashore provides a beautiful and relaxing landscape for every level of birder to engage in fall and winter birdwatching and wildlife viewing. For more information, please visit the following sources:

http://www.allaboutbirds.org/guide/Sandhill_Crane/lifehistory

<http://animals.nationalgeographic.com/animals/birds/sandhill-crane.html>

The Sibley Guide to Birds, David Allen Sibley
<http://www.savingcranes.org/sandhillcrane.html>



Left to right: Mature Lightning whelk, Lightning whelk in a juvenile stage, egg casing of the Lightning whelk where the baby whelks develop, baby whelks



Mating dance of the Sandhill Crane

Shark in the Park

Chelsea Aldrich, Park Ranger

“DO YOU HAVE ANY SHARKS HERE? HOW CLOSE TO THE SHORE DO SHARKS swim?” Both of these questions are commonly asked by visitors who are concerned about sharks swimming near them in the Gulf of Mexico. Actually, sharks do swim in abundance in Gulf waters, and many swim close to the beach at Padre Island National Seashore. While it is important to be cautious when swimming in the Gulf, do not let your fear of sharks keep you from the water. Instead, approach the water wisely and with caution. Swim with other people and avoid entering the water in the early morning or at night.

One angler, now grown with his own children, shared a childhood story of a family trip to the beach when helicopters flew overhead to announce a massive shark migration on the Padre Island coast. He laughed and recalled the memory of his father running across the water back to the beach. Today, this angler, along with many others, fishes at Padre Island National Seashore for sharks, most often releasing them afterwards in order to better experience these incredible creatures. One of these fishermen said, “The bigger they are, the more beautiful they are.” Yet, considering how long they have held our attention and intrigue, we know relatively little about these magnificent, aquatic beasts.

As a member of the fish family, sharks swim by moving their tails from side-to-side, they use gills to filter oxygen from the water, and they have circulatory, digestive, reproductive, and nervous systems similar to other fish. Perhaps the most significant difference in these fish relatives is that sharks’ skeletons are composed of cartilage, not bone. Further, in place of fish scales, sharks have dermal denticles, which are tiny and tough, giving sharks a sandpaper-textured exterior.



Blacktip Shark

Consider the amount of time it takes for humans to lose old and grow new teeth, and then recall how many teeth we have in one lifetime. By comparison, most sharks have several rows of teeth that are quickly replaced if one is lost, and in one lifetime, sharks can have around 50,000 teeth! This is not true for all sharks, though. In fact, the largest fish in the world, the whale shark, has filters instead of teeth, allowing it to eat plankton, microorganisms near the bottom of the food chain.

Whale sharks, which can reach 43 feet in length, can seem quite intimidating and frightening; however, they are entirely harmless and docile fish. While there are sharks that can be dangerous to people, such as Tiger and Bull sharks, only 32 of the world’s 350 species have been known to attack people. If the idea of sharks swimming nearby makes you nervous, perhaps the following statistics, provided by the International Shark Attack File from the Florida Museum of Natural History, will be even more reassuring:

- (1) From 2001-2008 in the United States, 198 people were killed by dog attacks, and seven people were killed by sharks;
- (2) From 1990-2008 in the United States, 14,379 people were killed in bicycle accidents, and 13 people were killed by sharks;
- (3) Between 1948 and 2005, people were twice as likely to be killed by an alligator than a shark; and
- (4) In the coastal United States, between 1959 and 2007, 1,945 people were killed by lightning strikes, and 23 people were killed by shark attacks.

In reality, people pose the greatest threat to sharks, and we have caused shark populations to be threatened worldwide, though we do not know to what extent. Sharks are often killed, and only their fins taken, to make soup. Other people harvest sharks for their meat and organs. Historically, sharks have also been, and are presently, killed for their leather to make items such as clothing, instruments, and sandpaper. Their liver oil is used for cosmetics and vitamins, while shark corneas are used as transplants for human eyes. Medical research is also calling for the harvest of sharks for their cartilage which prevents tumors and can serve as artificial skin for burn victims.

Like all living creatures, sharks hold as much value as we assign to them, but we must also recognize and acknowledge that different shark species have intrinsic value; each species plays a diverse and important role to help ensure the health and balance of the ocean. Balancing caution and knowledge with appreciation, respect, and care will make certain that these creatures will continue to roam the ocean for thousands of years to come.

The Original Islanders

William “Buzz” Botts, Park Ranger

SOUTH TEXANS OFTEN BRAG THAT THIS LAND HAS BEEN RULED BY four different nations: Spain, Mexico, The Republic of Texas, and the United States. There’s only one catch to the story though. Before all of the Euro-American leadership changes occurred, a remarkable variety of Native American people inhabited this harsh, dry island and the surrounding coastal plain for thousands of years. Cabeza de Vaca, the first European to document the Texas coastal Indians, described them in this way after living among them as a captive, shaman, and trader, from 1528 until 1536:

I believe these people see and hear better, and have keener senses than any other in the world. They are great in hunger, thirst, and cold, as if they were made for the endurance of these more than other men, by habit and nature.

Coastal Texas was, and is today, a land of extreme droughts, minimal forest cover and very little consistent and easily-accessed fresh water. For those reasons farming wasn’t practical, so Native Americans were forced to lead a highly nomadic life in order to sustain themselves. De Vaca describes them living off of a diet of mammals, such as javelinas, rabbits, and the occasional deer. He also describes their willingness to eat most anything including spiders, ant eggs, worms, lizards, prickly pear fruits, rattlesnakes and even deer dung!

So, who were these original islanders? Not a great deal is known about the prehistoric Indians, but more recently Padre Island was used by the Coahuiltecan and Karankawa people. The Karankawa mostly inhabited the Texas coast from Corpus Christi and northeastward to the Galveston area, while the Coahuiltecan were found from Padre Island and south into Northern Mexico. Both groups were interrelated, nomadic hunter-gatherers who roamed the coastal plain and barrier islands. The two groups of native people are thought to have been united by a common language. Both were documented on Padre Island by various Spanish explorers. A map drawn by Colonel Diego Ortiz Parrilla, who scouted the island for Spain in 1766, shows several Malaquite (pronounced “Mal-ah-keet”) settlements on the southern end of Padre Island. The Malaquite Indians were considered to be a band of the Coahuiltecan people. The same map showed a Karankawa settlement on the northern end. Another of Colonel Parrilla’s maps shows a Malaquite settlement in the vicinity of today’s visitor center. Because of that map notation, the park’s second superintendent, Ernest Borgman, named the area Malaquite Beach to honor the native people.



Artist's depiction of the Karankawa

The ability of the Indians to survive in such a barren region of Texas is testimony to the very strength and resourcefulness that Cabeza de Vaca marveled over. Few areas of North America were more difficult for hunters and gatherers to exploit than the cactus and mesquite country of South Texas. The natives’ willingness to consume anything the human body could digest and their extensive knowledge of where and when the best foods could be found, enabled them to survive in a very unforgiving world.

Today the Karankawa, the Coahuiltecan and the related Malaquite are no more. Their demise began with the arrival of the first European and African people, and diseases such as smallpox and measles that came with them. With no natural resistance, Native American populations were devastated. Those diseases, along with the well-documented loss of their land to the better armed settlers and the military, sealed their fate. It was simply too much for the native people to overcome. Because the National Park Service endeavors to preserve Padre Island National Seashore in its natural state, visiting the park today is very much like stepping back into the time de Vaca wrote about. The park protects a last vestige of the coastal prairie ecosystem that once covered much of coastal Texas.

Use your imagination. Put yourself in the place of the Malaquite Indians. If you had to survive in this country without modern technology, could you do it? Hopefully, considering the many challenges the native people had to contend with, will deepen our appreciation for a lost but not forgotten way of life. Their survival, in spite of the environmental extremes, serves as a reminder to us all of the remarkable adaptability, toughness, and resourcefulness of native people.

Phragmites: Friend or Foe

Judy Stedronsky and Cheyenne Nevada, Seasonal Rangers

OUR MISSION AT PADRE ISLAND NATIONAL SEASHORE IS TO SAVE AND preserve the park for purposes of public recreation, benefit and inspiration. In order to carry out this mission and protect our natural resources, park staff has been working to preserve natural habitats of the park from invasive species.

Many mechanisms can cause an invasive situation to occur. Invasive plants can enter the park in a variety of ways, like seeds blowing in on the wind or seeds and other viable plant parts floating in with Gulf and Laguna Madre waters. Birds and other animals can ingest the plants, or seeds can stick to feathers or fur. A large percentage of invasive plants arrive when humans transport the plants or seeds, many times intentionally as ornamentals or as crops. Many plants can also arrive on the wheels and undercarriage of vehicles or heavy equipment.

One such plant, *Phragmites australis*, occurs in every state in the continental U.S., and on all of the world's continents except Antarctica. There are several areas in the park where Phragmites has become established. Commonly referred to as Common Reed, this tall perennial grass can grow to over 15 feet. It forms dense stands of live stems mixed with standing dead stems from previous years' growth. Phragmites can grow and spread at a phenomenal rate. As an example, one stalk can grow to be 15 feet tall.



Phragmites

Once introduced, Phragmites can take over a marsh area very quickly by crowding out native plants and changing the habitat. They spread by seed dispersal and by rhizome runners. A rhizome, from the Greek word meaning "rootstalk," is the stem of a plant that grows horizontally.

A total domination by Phragmites can cause a reduction in native insect and bird populations. This invasion can also change mammal habitat, since resting, feeding and breeding areas are diminished. As growth of the invasive Phragmites increases, marsh surfaces fill in with organic material from the plants, disrupting water flow. This, in turn, can inhibit the movement of fish and crustaceans, making the habitat unsuitable for survival.

Native Phragmites' remains from 40,000 years ago have been found in the southwest in coastal areas such as ours., Carbon testing of fragments found in marshlands reveal rhizomes dating back 3,000 to 4,000 years. In North America, there is archaeological evidence that Native Americans used stems of Phragmites for arrow shafts, ceremonial objects, cigarettes and mat making.

It is believed that introduced Phragmites accidentally arrived in North America, when it was used as packing material in the late 18th and early 19th centuries. Phragmites first established itself along the Atlantic coast and then gradually spread. In the 1970s, these plants were used to control areas of erosion on the northeast Atlantic coastline. Some nurseries in the U.S. sell these plants commercially as ornamentals and for use in erosion control. In Europe, Phragmites is grown commercially and used for thatching, cellulose production and livestock fodder.

Research has been taking place, especially in the eastern U.S., in order to identify and distinguish between native and invasive Phragmites. Due to its adaptability, it is often difficult to tell the native from the introduced varieties of Phragmites. Molecular markers (DNA analysis) make it possible to identify and distinguish between the different populations of Phragmites. DNA analysis is only one way to determine which population is growing in a certain area, but qualities such as plant color, height, density of stands and stem diameter may also help to make this distinction.

What is being done? Many hours are being devoted to identifying, controlling and hopefully eradicating these stands of Phragmites by the park's Natural Resources staff. The staff has been collecting samples from different stands of Phragmites and sending these samples for DNA analysis and analytical comparisons in order to help determine the next course of action.

How National Parks Operate

HAVE YOU EVER WONDERED HOW NATIONAL PARKS OPERATE?

Read more to delve behind the scenes for a look at the six divisions that work to conserve Padre Island National Seashore's natural and cultural resources for the enjoyment of future generations.



Administration

While Facility Management might use nuts and bolts in some of their projects, the Administration Division is the "nuts and bolts" of the National Seashore. They manage the park's finances, personnel, and purchasing activities. The park's computers stay current and protected, and park personnel are held accountable and responsible with the help of Administration. Without nuts and bolts, park facilities would fall down, and without Administration, the NPS team would be inoperable.

Visitor & Resource Protection

Visitor & Resource Protection consists of the Law Enforcement unit and the Fee Collection unit. The law enforcement staff works in conjunction with the United States Attorney's Office and the State of Texas District Attorney's offices for the prosecution of its cases. Law Enforcement is responsible for investigating the full span of criminal activity, issuing permits, and responding to emergency and fire-related incidents. When you enter the park, you will likely be greeted by rangers working for Fee Collection, who issue passes and give helpful information. They also conduct fee compliance at Bird Island Basin and Malaquite Campground.

Facility Management

Facility Management is a division that is involved parkwide. They are responsible for the maintenance of all park facilities, including buildings, the vehicle fleet, beaches, trails, water, sewage, and electricity. When storms and currents deposit miles of marine debris on the shoreline, Facility Management responds, along with other state and federal agencies and hundreds of volunteers in events such as the Billy Sandifer Big Shell Beach Clean-up. With the assistance of visitor fees, Facility Management has been able to carry out a number of projects, including the construction of kiosks, a handicap-accessible boardwalk at Malaquite Campground, and a new rinse off shower and picnic pavilion next to the Malaquite Visitor Center parking lot.

Interpretation

Many visitors and schoolchildren are familiar with the National Seashore's interpretation and education programs. The Division of Interpretation and Education exists to engage visitors in the natural environment so that they leave the park *caring about*, and ultimately, feeling inspired to *care for*, its natural and cultural resources. Programs, exhibits, media, and publications are developed by this division in order to enhance visitor experience in the park. If you visit the park in the summer for a sea turtle hatchling release, you will be welcomed by the Interpretation staff and a brief presentation. Each year, nearly 10,000 students and community members participate in programs presented by park rangers in classrooms in the local and surrounding communities and in the park.

Science and Resources Management

While we are each responsible for caring for the National Seashore's cultural and natural resources, the Division of Science and Resources Management (DSRM) ultimately manages them. The DSRM conducts compliance on all projects that may affect a resource, weighs the consequences, and provides alternatives. Further, they partner with other local state, federal, and private organizations to conduct research in the park in order to help develop management plans geared toward protecting resources and providing for a positive visitor experience.

Sea Turtle Science and Recovery

The Division of Sea Turtle Science and Recovery at Padre Island National Seashore conducts an active science, conservation, and public education program on behalf of the five sea turtle species that occur at the park. This work is local, statewide, national, and international in scope, in partnership with numerous entities, and receives extensive community support and media coverage.

Kids' Corner

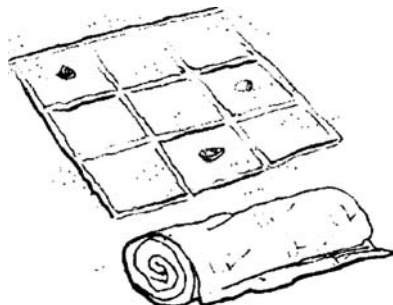
Chelsea Aldrich, Park Ranger

Sand Memory

Have you ever played on the beach and found seashells, seabeans, or other fun things that may have washed ashore? Well, you can turn anything you find into a game piece for the Sand Memory game! If you use an object, such as a bottle cap, please be sure to make the beach a cleaner place by throwing it away when you are finished playing. Sand Memory is a fun game you can play with two or more people in teams. Read the rules below to find out more, and enjoy the sand!

What you will need to play:

Beach
Game pieces (Ex., shells, seabeans, rocks, seaweed, litter, etc.)
Beach towel


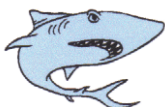


Rules:

- (1) Sit back to back on the sand with the other team, and draw a grid like the one shown above. You might start with a 3X3 grid (three squares per side), and then make it bigger as you get better.
- (2) Have the other team turn away while you set out game pieces on your grid. You can only put one game piece on each square, but you don't have to put one on every square. Once you have created your grid pattern, cover it with a towel.
- (3) Uncover your grid and let the other team look at it for 15 seconds. Then, re-cover the grid with the towel. The other team now has to duplicate the pattern on its own grid. When the other team is done, lift the towel and see how close they got. Then let the other team lay out a pattern.
- (4) Change the rules as you get better at the game. You might allow more than one rock per square. You could use different markers, such as shells, rocks, and twigs, or make bigger grids.

Hungry Shark Maze

The hungry shark is looking for food. Draw a path through the maze from the shark to the fish, starting at the number 4. Your path can only move in multiples of 4 all the way up to the number 400.

352	356	368	372	384	388	400				
348	360	364	376	380	392	396				
344	332	328	324	320	316					
340	336	60	64	308	312	284	280	268	264	
48	52	56	68	304	292	288	276	272	260	
44	40	36	72	300	296	116	120	252	256	
16	20	32	76	104	108	112	124	248	244	
12	24	28	80	100	96	132	128	236	240	
8	4		84	88	92	136	140	232	228	
			160	156	152	148	144	220	224	
			164	176	180	192	196	216	212	
			168	172	184	188	200	204	208	

WESTERN NATIONAL PARKS ASSOCIATION

Western National Parks Association is a nonprofit cooperating association with the National Park Service. Headquartered in Tucson, Arizona, the Association was founded in 1938 as the Southwest Monuments Association to support the interpretive activities of the National Park Service.

One of our founding goals was to create and publish park-related information unavailable elsewhere. Western National Parks Association promotes preservation of the National Park system and its resources by creating greater public appreciation through education, interpretation, and research.

Jr. Ranger Vest and Bucket Hat



The Jr. Ranger Vest is available in sizes from small to x-large. It has several pockets for storage, and is available in dark green. The Jr. Ranger Bucket Hats are available in two sizes.

Jr. Ranger Backpack



Children can enjoy the great outdoors with this sturdy backpack. The backpack is made with high-quality fabric, main and front zippered compartments, thumb grip zipper pulls, top carry loop, compression cord, and mesh water-bottle pockets on both sides. "Junior Ranger" is embroidered on the front of the backpack.

Padre Island Logo T-Shirt



These 100% combed ring spun white cotton shirts will last for years. The front includes a colorful Padre Island logo design while the back features educational information about the park. Children and adult sizes are available.

Padre Island Baseball Hat



Support Padre Island National Seashore by wearing this attractive hat. This lightweight, low profile, six-panel hat is constructed from high-quality brushed cotton twill with an adjustable strap with a metal clasp for sizing. Each cap has a label sewn into the interior describing the park. Available in khaki only.

20% Discount

When you check out at the Malaquite Visitor Center Bookstore, mention that you are a teacher or a homeschool educator and get a 20% discount on all of your educational purchases!

Forget something?

During your recent visit to Padre Island National Seashore, did you check out our bookstore, but forgot your wallet or credit card? Check out the Western National Parks Association website to order your favorite publications and help support your parks.
<http://www.wnpa.org>

Health and Safety Tips

Swimming

Use caution when swimming and never swim alone. Strong currents flowing parallel to the beach, tides flowing to and from the beach, and sudden drop-offs in the surf can be dangerous for swimmers and waders alike. If caught in a rip tide, do not panic. Swim parallel to the beach until you are free from the flow, then swim to shore. Do not attempt to swim to shore against the flow. You will not make it.

Hazardous materials

Hazardous materials periodically wash ashore and range from 55-gallon barrels containing unknown substances to used medical products. If you come upon hazardous materials, note the location and alert a park ranger.

Metal detectors

Possession or use of metal detectors is prohibited in the park. Items such as seashells and driftwood, washed in by the tide, may be collected as long as the items are not used for commercial purposes. All other collecting is prohibited.

Pets

Pets must be on a leash and under physical restraint at all times. Pets are not permitted at the Malaquite Visitor Center area, including the designated swim beach in front of the visitor center. Pet waste is becoming a growing problem. Please clean up after your animals.

Gray water and sewage

Gray water and sewage must be disposed of only at the dump station at Malaquite Campground.

Driving

Beaches are Texas public highways. Only street legal and licensed vehicles may be driven in the park. All-terrain vehicles (ATVs), UTVs, go-carts, golf carts, and dune buggies are prohibited. Driving in dunes, grasslands, or mudflats is prohibited. Pedestrians have the right-of-way at all times and do not always watch for approaching vehicles. Drive with caution and strictly observe posted speed limits.

Portuguese man-of-war

These amazing creatures are found at the park throughout the year. These jellyfish-like creatures cause a painful sting, which is usually accompanied by redness and some swelling of the affected skin area. If stung, apply vinegar or seek first aid at the Malaquite Visitor Center First Aid Station. A very small percentage of those stung will experience an allergic reaction, which can cause difficulty breathing, numbness in the arms, legs or elsewhere, severe pain, and/or disorientation or unconsciousness. Visitors experiencing these or other symptoms should notify a park ranger immediately and seek medical attention.

Stingrays

If stepped on or agitated, these bottom-dwelling relatives of sharks can inflict a puncture wound that can be extremely painful. If you are in the water, we recommend doing the "stingray shuffle." Instead of walking, shuffle along, so instead of stepping on a stingray you nudge it, causing it to swim away.

Rattlesnakes

Rattlesnakes live in the dunes, grasslands, and mudflats. Visitors should use extreme caution when walking in these areas.

Hunting

Hunting is not permitted in the park, except for the taking of waterfowl in the Laguna Madre in accordance with applicable state and federal regulations. Transporting lawfully taken wildlife, including exotic species, through the park is prohibited, except for waterfowl and fish.

Loaded firearms are strictly prohibited. A Concealed Handgun License issued under the authority of the State of Texas, or another state is not valid at Padre Island National Seashore. Disassembled handguns are permitted.

Jet skis, air boats, and kite surfing are prohibited.



IN CASE OF MEDICAL EMERGENCY

If you have a medical emergency during your visit, contact a park ranger immediately or go to the Malaquite Visitor Center First Aid Station. If an employee is not immediately available, you may summon assistance for any emergency by dialing 911.

The closest hospital is Bay Area Medical Center, located at the corner of South Padre Island Drive and Rodd Field Road in Corpus Christi. This facility is 24 miles from the visitor center.